

TASK ORDER 065
PROVIDER PAYMENT CASE STUDIES

**Per Capita-based Global Budgeting
in Zhovkva, Ukraine:
An Integrated Set of Reforms**

March 1997

**PER CAPITA-BASED GLOBAL BUDGETING
IN ZHOVKVA, UKRAINE:
AN INTEGRATED SET OF REFORMS**

A CASE STUDY

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Acronyms

ALOS	Average Length of Stay
ENT	Ear, Nose and Throat
FSU	Former Soviet Union
FTE	Full-time Equivalent
GDP	Gross Domestic Product
NIS	New Independent States
PCC	Primary Care Center
PHC	Primary Health Care
RVU	Relative Value Unit
STD	Sexually Transmitted Diseases
TB	Tuberculosis
USAID	U.S. Agency for International Development
VAT	Value-Added Tax
ZRP	Zdrav <i>Reform</i> Program

\$1 = 185,000 Koupons

EXECUTIVE SUMMARY

This paper presents a case study of the first health care reforms introduced in Zhovkva rayon, L'viv Oblast in Ukraine, in response to the initial implementation of a district-level per capita based global budget reform. The main objective of this case study is to document the reforms including what they are, how they are being implemented, and their initial results for individuals designing the policy (health administration officials) as well as those responding to the policies (health care managers).

In late 1995 the L'viv Oblast Health Administration issued Decree 774 on the "Implementation of Per Capita Financing." The real meaning of the decree was that rayon budgets should no longer be based on the number of hospital beds and bed occupancy rates, but instead be fixed globally on the basis of 1995 budget levels and adjusted for population size. This was done so as not to penalize rayons for having closed approximately 3,000 hospital beds in 1995. The intention was to provide managers with powerful incentives to reduce average length of stay, unnecessary hospitalizations, and eventually the number of hospitals and hospital beds. The decree did not specify how budgets should be allocated within rayons to individual facilities. The decree did specify a list of basic services and essential drugs which should be provided to the population free of charge (as well as reaffirm the right of specific groups in the population to receive all health services free); but it authorized medical facilities to charge fees for all other drugs and services.

The *ZdravReform* Program, sponsored by the U.S. Agency for International Development (USAID), has worked collaboratively with the Zhovkva rayon health administration to implement an integrated package of health care reforms that respond to the new incentives created by the district-level global budgets. Reforms cover system restructuring (e.g. shifting inpatient to outpatient care, expanding primary care and downsizing tertiary and secondary care), quality of care (e.g., licensing and accreditation, clinical pathways, quality assurance), general management (e.g., leadership, organizational restructuring, strategic planning, marketing, client satisfaction), financial management (e.g., cost accounting, decentralized budgeting, internal control), and user fees. Although many details of the payment system remain to be worked out, including per capita budget formula itself and the crucial provider payment method from the rayon budget to inpatient and outpatient providers, there is significant evidence that the new payment method is working through the reform package to improve efficiency, quality, and access to health care.

1.0 INTRODUCTION

This paper is a case study on the introduction of per capita-based rayon-level global budgeting in Zhovkva Rayon, in L'viv Oblast, Ukraine, and the set of integrated components of health care reform that accompanied these changes in payment. This case study is unique from other case studies in that, in L'viv, a comprehensive package of health care reforms was not explicitly planned, nor was a specific implementation plan in pilot districts or facilities worked out. Rather, health care financing or management changes were discussed and implemented as opportunities presented themselves. This case study summarizes the various opportunities for reform that occurred during a two-year period. They include reforms in health system restructuring, management and financing. Although implemented somewhat independently of each other, taken together they are key building blocks for a more market-oriented health care delivery system.

The paper is meant to be a reference document for health care policy makers and administrators who are guiding and establishing policy reforms, and managers who are implementing and coping with these reforms. The specific objectives of this case study are:

- To document the experiences of policy makers and health managers who have implemented and are presently implementing health payment reforms in various health facilities and in health systems delivery;
- To present an understanding of the principles, concepts, and methods of health system payment reform for senior level managers who must continue to strive to maintain quality while also reducing cost;
- To share with colleagues the experiences and lessons learned from a number of health administrators and managers in Zhovkva on the potentials and the constraints to health systems payment reform at the rayon and district levels; and
- To show the important role new payment methods have in launching an integrated set of health care reforms that span financial, management, organizational, and clinical aspects of health service delivery.

This case study is not meant to be the final word on the subject of health payment reform in Zhovkva, Ukraine, but instead is meant to be a beginning effort at understanding the principles, concepts, methods, constraints, and possibilities which exist for realistic health reform. The paper is meant to be used as a guide for future development, and all health managers will want to modify the recommendations to meet their own specific needs and special situations.

2.0 BACKGROUND

2.1 Ukraine Economic Conditions

On August 24th, 1991, the Ukrainian Supreme Soviet proclaimed the formal independence of the Republic of Ukraine. During its first years of independence, Ukraine has faced severely deteriorating economic conditions. Economic problems were compounded by energy dependency, and Ukraine has had to purchase oil from either Russia or Kazakstan. Between 1990 and 1991, GDP declined by about 15 percent; and in 1992 by another 14 percent. Forecasters say that by the end of 1996, real GDP will be about 48 percent of its value in 1993. Similarly, the 1996 index of real industrial production will be 42 percent of what it was in 1990. Although inflation during 1996 has remained relatively low and stable at about 3 percent per month, monthly inflation rates during 1993, 1994, and 1995 were very high at 47.1 percent, 14.4 percent, and 9.0 percent respectively. In the third quarter of 1996, stable inflation rates allowed the government to issue a new currency, the hryvnia. (The previous currency was the karbovanets, or kupon.)

In November 1996, a new comprehensive program of economic reforms was submitted by the government to the Parliament. It included major reductions in a variety of taxes including payroll taxes, further deregulation of economic activity, lower tax burdens for enterprises, and reduced tax privileges in order to secure sufficient budget revenues. However, by December 1996, Parliament decided that the 1997 budget proposals would be based on present tax laws rather than those presented in the economic reform package. Budgeting in Ukraine is a difficult and contentious process that continues to generate substantial conflict between the legislative and executive branches.

In 1992 the overall cost of social protection (pensions, allowances, subsidies, and social services) was budgeted at more than 40 percent of GDP or two-thirds of consolidated spending by Ukraine's state, social funds and oblast budgets, which exceeded significantly the estimated 25 percent of GDP allocated to social spending in 1989-90. Almost no other country in the world has such a high percent of GDP spent on the social sectors. This large share results from two main problems: shrinking GDP as a result of the collapse of state enterprises and attempts to protect the real value of several of the social benefits. Clearly, providing benefits or wages to nearly two thirds of the population while only one third works in directly productive activities, has outgrown the possibility of being financed by the economy and the government.¹

2.2 Ukraine Health Conditions

The Ukraine health care system is characterized by a highly overbedded and overstaffed infrastructure. The main causes of death are cardiovascular conditions, cancer, accidents, and respiratory illnesses. Circulatory diseases alone accounted for over half of all deaths and for almost 30 percent of all years of potential life lost in 1988. Zhovkva rayon

¹ World Bank. *Ukraine: The Social Sectors During Transition*, Washington DC, 1990, pp 1-2 .

is located in L'viv Oblast in western Ukraine. Table 1 shows population, health, and service

Table 1
Selected Health Status and Health Service Statistics: Ukraine & L'viv

Item	1994		1995		% change 94-95	
	Ukr.	L'viv	Ukr.	L'viv	Ukr.	L'viv
Population (millions)	52.1	2.746	51.3	2.745	-2%	0%
Birth rate/1,000	10.1	11.8	10.2	10.9	-1%	-7.6%
Mortality rate/1,000	14.2	11.8	14.8	12.4	+4%	+5%
Pop. Growth Rate	-4.6	0	-4.6	-1.5	0%	0%
No. Physicians/10,000	57.6	50.8	57.7	50.4	+0.1%	-1%
No. of Beds						
-oblast	27,150	1,160	27,307	1,160	+1%	0%
-central rayon	164,368	6,731	156,770	6,226	-5%	-8%
-district	48,744	1,185	42,427	935	-13%	-21%
-day care	10,813	403	13,111	637	+21%	+58%
Hosp. Admission Rate	22.6%	20.2	21.9%	19.8	-0.7%	-2%
Average number days bed is in use per year	301	309	305	321	+1%	-4%
Leading Disease Incidence/100,000						
respiratory	32,913	38,094	35,483	39,969	+8%	+5%
circulatory	23,440	17,834	24,577	18,470	+5%	+4%
digestive	10,854	13,027	11,119	10,566	+2%	-19%
Leading new cases /100,000						
respiratory	27,923	33,151	30,477	34,935	+9%	+5%
nervous system	5,825	5,950	5,894	6,084	+1%	+2%
traumas, poison	5208	3,891	5,136	3,751	+1%	-4%
skin diseases	4,112	3,428	4,160	3,217	+1%	-6%

statistics for L'viv in comparison with Ukraine. The L'viv population is falling, but not by as much as the country as a whole. In part, this is due to the influx of people from other parts of Ukraine (e.g. after Chernobyl). L'viv appears to be pursuing slightly more aggressive health care reforms than Ukraine as a whole as seen by a relatively larger reduction in physicians, hospitals beds, and hospital admission rates. Health conditions appear similar, but perhaps with fewer digestive diseases, traumas, and poisonings.

The poor economic conditions have taken their toll on the health sector with the health budget receiving only about 18 percent of 1980 planned expenditures. Most oblasts have substantial medical wage arrears averaging about three months in wage debt for the country. L'viv oblast is better than most with about one month in medical wage debts.

2.3 Zhovkva Rayon in L'viv Oblast

Zhovkva is one of 20 rayons in L'viv oblast in addition to 7 major cities (L'viv, Boryslav, Drohobych, Sambir, Stryi, Truskavets, Chervonorad). L'viv city is a medieval university town founded in 1241 and previously part of the Austro-Hungarian Empire and Polish-Lithuanian Commonwealth. The total population of L'viv Oblast was 2,705,286 in 1994. The population of L'viv City alone was 779,876 persons or 29 percent of the total. Seven smaller cities account for an additional 14 percent of the population. The 20 rural rayons account for the remaining 57 percent of the population in L'viv Oblast.

The health system consists of rayon-level facilities (hospitals, polyclinics, ambulatories) administered by each city or the rayon (e.g. city or rayon health administration). In 1994, the 20 rayons accounted for about 48 percent of the total hospital beds, cities accounted for 29 percent of the total, and the oblast accounted for the remaining 23 percent.

Table 2 lists the types of health facilities in Zhovkva rayon in 1994 compared with the average figures for the 20 rayons. The most significant characteristic of Zhovkva is that it is the third largest rayon in L'viv oblast with a population of about 112,000; this is about 40 percent larger than the average for all rayons. Otherwise, Zhovkva is quite similar in the types of facilities it has.

Table 2
Health Facilities of Zhovkva Rayon
Compared to All Rayons in L'viv Oblast, 1994

	Zhovkva Rayon	All Rayons (average of 20)
Population	111,500	79,300
Percent Urban Population	37.3	31.7
Central Rayon Hospitals	1	0.95
Rayon Hospitals	1	0.75
City Hospitals	3	1.15
District Hospitals	2	1.65
Dispensaries and Other Facilities	1	1.0
Percent of Hospital Beds in Central Rayon Hospital	47.8	50.1
Ambulatories	5	6.1
Feldscher Units	58	52.8
Percent of Feldscher Units with 3 or More Rooms	93.1	55.1
% of Feldscher Units with Medical Workers	100.0%	96.9%

Source: L'viv Oblast Annual Health Report, 1995

Table 3 compares Zhovkva's health personnel with the other rayons in the oblast and shows that it has a typical endowment of doctors and nurses. However, in 1994 Zhovkva had fewer hospital beds per 10,000 population as compared to all rayons (71 compared to 84). By 1995, an additional 70 hospital beds were closed such that now there were about 65 hospital beds per 10,000 population. In 1996 another 20 beds were closed. As a result of these bed reductions, Zhovkva's bed turnover rate (number of discharges per bed) of 22 and bed occupancy rate of 89 percent are slightly higher than the corresponding numbers in all rayons (20 and 85 percent, respectively). Zhovkva's average length of stay (ALOS) is slightly lower than other rayons, 15 days as compared to 16 days.

Table 3
1994 Health System Personnel and Bed Ratios: Zhovkva, All Rayons, Oblast

Item	Zhovkva Rayon	Other Rayons	Oblast
Doctors/10000	20.4	22.3	35.7
Nurses/10000	63.9	65.6	92.9
Beds/10000	71.3	84.4	110.3

Source: Oblast Health Administration Annual Report, 1995

3.0 PAYMENT REFORM IN L'VIV OBLAST

On September 25, 1995 the L'viv Oblast Health Administration issued Decree 774 on the "Implementation of Per Capita Financing." This decree states that all medical facilities in the Oblast should begin to implement per capita financing from October 1, 1995, within the framework of the 1995 budgets. This decree was partially put into effect in mid-1996, but a severe budget crisis where health facilities received only about 18 percent of their budgets, has impeded its full implementation. The real meaning of the decree appears to be that rayon budgets should no longer be based on the number of hospital beds and bed occupancy rates, but instead be fixed globally on the basis of 1995 budget levels and population size. This was done so as not to penalize rayons for having closed approximately 3,000 hospital beds in 1995. The new per capita-based budgeting formula should provide powerful incentives to reduce ALOS, unnecessary hospitalizations, and eventually the number of hospitals and hospital beds. The decree does not, however, specify how budgets should be allocated within rayons to individual facilities. The oblast health facilities, most of which are located in L'viv City but some of which are located in the rayons, will be paid from a separate fund. This will give rayon health administrators a strong incentive to refer patients to oblast-level facilities, so some mechanism (either financial or management referral mechanism) will need to be put in place to prevent unnecessary transfers.

The recent decree also specifies a list of basic services and essential drugs which should be provided to the population free of charge (as well as reaffirms the right of specific groups in the population to receive all health services free); but it authorizes medical facilities to charge fees for all other drugs and services, even going so far as to exempt them from the payment of Value-Added Tax (VAT) and profit taxes on this revenue (whether this exemption will cover both the national and oblast portions of these taxes is as yet unclear).

As already mentioned, it is likely that the implementation of per capita (global) budgeting within L'viv Oblast will provide strong incentives at the rayon level to reduce unnecessary and lengthy hospitalizations. It is less clear how these incentives will be transferred to the managers of individual facilities within the rayon. If the facilities are also given global budgets, they will have a strong incentive to refer patients to higher-level facilities (e.g., from a city or rayon hospital to the central rayon or oblast hospital). If facility budgets are fixed on the basis of number of beds and bed occupancy, as they are presently, the potential incentives offered by the new system will be lost. A case-based or complexity grouping reimbursement system provides strong incentives both to treat patients (rather than to refer them) and to shorten hospital stays; but it fails to provide an incentive to treat patients on an outpatient basis. In Zhovkva, provider payment methods from the rayon global budget remain substantially unaddressed. This is a critical gap in health care financing policy. At a minimum, the rayon health administration should determine the proportion of the overall budget going to primary health care and what proportion remains for secondary health care.

Complementarity of Rayon and Facility Payment Systems

Implementation of *rayon-level per capita (global) budgeting* within L'viv Oblast will provide strong incentives at the rayon level to reduce unnecessary and lengthy hospitalizations. *Provider payment methods* from the rayon to providers are necessary to transfer these incentives to the managers of individual facilities within the rayon. If facility budgets are fixed on the basis of number of beds and bed occupancy, as they are presently, the potential incentives offered by the new system will be lost.

3.1 Implications for Zhovkva

The new per capita-based budget formulas would be particularly important for Zhovkva, which has a relatively large population yet has been aggressive in closing beds. The new budget formulas require a whole new mentality among managers, because the budgets are set prospectively compared to previous years when rayon health administrators had more flexibility in petitioning for more funds throughout the year depending on volume of service. Specific formulas for the per capita-based budgeting have not been finalized by L'viv Oblast Health Administration.

In Table 4, the percentage of actual expenditures in 1992-1996 and projected 1997, and percentage of age-sex adjusted estimated expenditures for 1994 going to each rayon, show that Zhovkva would benefit from the new per capita-based budgets. Age-sex weights were provided by the L'viv Oblast Health Administration (the same as those from the National Institute of Health in Moscow, 1988). If rayon budgets were based on the number of beds, then Zhovkva's share of the total L'viv Oblast Health budget would fall from 3.54 percent to 3.41 percent during 1992 and 1993 as a result of aggressive bed reductions. In contrast, if rayon budgets were based on population or age-sex adjusted population, Zhovkva could get up to 4.14 percent or 4.22 percent, respectively. In other words, in a scenario where cost-effective allocations of resources is adopted, e.g., where funds follow patients rather than beds, then Zhovkva should be allocated a larger share of the oblast health budget.

Funds Should Follow Patients Not Beds

Improvements in efficiency, quality, and access of care can occur when funds follow individuals and patients rather than the health infrastructure, e.g., beds. When funds are not tied to the number of beds, managers have the flexibility to choose the most efficient way to achieve health outcomes for a patient or a population group.

Table 4
L'viv Oblast: Hypothetical Percentage Distributions by District Based on Number of Hospital Bed, Population and Age/Sex-weighted Population (1992-1994)

Rayon or City	Hypothetical percentage distribution based on 1992 hospital beds	Hypothetical percentage distribution based on 1993 hospital beds	Hypothetical percentage distribution based on 1994 population	Hypothetical percentage distribution based on 1994 age/sex weighted population
RAYONS:				
Brody	2.72	2.81	2.49	2.68
Busk	2.55	2.45	1.93	2.10
Gorodok	2.94	2.92	2.85	2.99
Drohobych	1.37	1.42	2.84	3.03
Zhydachiv	2.92	3.15	3.10	3.44
Zolochiv	3.61	3.73	2.86	3.07
Kamianka-Buska	2.22	2.30	2.28	2.38
Mykolaiv	2.22	2.15	3.53	3.45
Mostyska	7.09	7.05	2.31	2.46
Zhovkva	3.54	3.41	4.12	4.22
Peremyshlany	2.24	2.32	1.92	2.16
Pustomyty	2.51	2.60	4.14	4.21
Radehiv	1.95	1.93	1.99	2.12
Sambir	3.49	3.61	2.76	2.92
Skole	2.09	2.17	1.83	1.91
Sokal	3.38	3.37	3.65	3.83
Sary Sambir	3.23	3.35	3.17	3.37
Stryi	2.92	3.06	2.30	2.39
Turka	2.16	1.97	2.06	2.11
Yavoriv	4.52	4.51	4.56	4.44
CITIES:				
L'viv	20.71	20.44	28.83	26.80
Boryslav	1.95	1.93	1.65	1.68
Drohobych	5.91	6.09	3.86	3.69
Sambir	2.05	2.12	1.61	1.54
Stryi	2.14	2.72	2.87	2.72
Truskavets	1.49	1.50	0.98	0.98
Chervonorad	6.09	4.94	3.50	3.32
TOTAL	100	100	100	100

Source: Barlow, R. and Knowles, J. "An Assessment of Plans to Implement Per Capita Financing in the Health System of L'viv Oblast," USAID ZdravReform Project Technical Report UKR-5, August 1995.

Table 5
L'viv Oblast: Actual Percentage Distribution of 1992 -1996 Health Expenditures by District and Planned 1997 Amounts

Rayon or City	Actual percentage distribution of 1992 health expenditures	Actual percentage distribution of 1993 health expenditures	Actual percentage distribution of 1994 health expenditures	Actual percentage distribution of 1995 health expenditures	Actual percentage distribution of 1996 health expenditures	Budgeted percentage distribution of 1997 health expenditures
RAYONS:						
Brody	2.79	3.29	3.02	3.35	3.20	2.20
Busk	1.78	1.88	1.84	1.48	1.93	1.75
Gorodok	2.54	2.19	3.30	3.46	3.44	2.74
Drohobych	1.24	1.32	1.65	1.51	2.03	1.48
Zhydachiv	3.57	3.32	3.72	3.34	2.69	2.74
Zolochiv	2.61	2.76	2.71	2.69	2.87	2.72
Kamianka-Buska	1.92	1.74	1.88	2.10	2.15	1.81
Mykolaiv	4.73	5.17	5.14	4.68	3.07	5.44
Mostyska	1.82	1.62	1.53	1.76	1.84	1.96
Zhovkva	3.23	3.27	2.92	2.69	3.15	3.15
Peremyshlany	1.72	1.39	1.76	1.89	2.11	1.58
Pustomyty	1.92	1.81	1.85	1.88	2.18	2.29
Radehiv	1.47	1.79	1.65	1.51	1.84	1.65
Sambir	2.94	2.78	--	1.38	1.52	1.43
Skole	1.94	2.27	2.21	1.59	2.06	1.91
Sokal	2.96	2.84	3.01	2.54	2.91	3.05
Stary Sambir	2.56	2.54	2.61	2.48	2.67	2.83
Stryi	4.18	2.46	2.18	2.57	2.82	2.81
Turka	1.83	1.40	1.91	1.77	1.90	1.91
Yavoriv	3.95	4.06	3.49	3.77	3.78	3.91
CITIES:						
L'viv	26.12	31.37	28.57	32.15	33.99	30.41
Boryslav	2.22	2.47	2.85	2.79	2.20	1.94
Drohobych	7.84	5.77	6.40	5.76	4.92	5.97
Sambir	1.73	1.63	4.99	2.87	2.03	3.44
Stryi	4.58	2.69	2.55	2.42	2.16	3.05
Truskavets	1.26	1.41	1.40	0.79	1.34	1.61
Chervonorad	4.55	4.76	4.84	4.77	3.20	4.20
TOTAL	100	100	100	100	100	100

Source: Barlow, R. and Knowles, J. "An Assessment of Plans to Implement Per Capita Financing in the Health System of L'viv Oblast," USAID ZdravReform Project Technical Report UKR-5, August 1995, and Oblast Health Administration Statistics Department

The severe and changing economic conditions (high inflation, drastic budget constraints, introduction of a new currency) make it difficult to make direct comparisons between pre- and post-reform budgets in Zhovkva. The rayon health administrator's own expert judgment is that his budget has not been reduced by the same aggressive proportion as the reduction in number in beds. In Table 5, analysis of 1994-97 data by share of the oblast health resources suggests that Zhovkva actually has received a smaller share than indicated by age-sex adjustments. Nevertheless, the rayons have more flexibility in using their budgets.

Payment reforms and the severe budget crises have created financial incentives for health care managers to find ways to meet the health needs of their population more efficiently, while still maintaining access to care of acceptable quality. The Zhovkva health administration, with the assistance of the *ZdravReform* Program has launched an integrated package of reforms that encompass system restructuring, quality of care, general management, financial management, and alternative sources of financing. The components of reform underway in Zhovkva are described in the sections below.

Responding to New Payments with an Integrated Package of Reforms

The Zhovkva health administration, with the assistance of the *ZdravReform* project has launched an integrated package of reforms that encompass system restructuring (e.g., converting inpatient to outpatient, expansion of primary health care), quality of care (e.g., licensing and accreditation, quality assurance, clinical pathways), general management (leadership, organization, marketing, client satisfaction), financial management (cost accounting, decentralized budgeting), and alternative sources of financing (user fees).

4.0 REFORMS IN HEALTH SYSTEM RESTRUCTURING

4.1 Comparing Previous Systems with What Should Be

The Zhovkva health system faces many of the same problems faced by most countries in the New Independent States (NIS). There is a critical shortage of primary health care physicians and an oversupply of specialists, subspecialists, and superspecialists providing care out of large hospitals, polyclinics and dispensary facilities. Also, discussions with hospital chiefs and a review of the data showed that patients are bypassing rural town hospitals and ambulatory facilities (due to lower levels of quality: staff, equipment, medications, etc.) and going directly to rayon-level polyclinics and hospitals or to the facilities in L'viv City.

The previous system was built on a large number of specialty institutions (Maternal, Pediatrics, Adult, Oncology, Tuberculosis, Sexually-Transmitted Disease, and Psychiatry), which depend on a high number of referrals to/from these polyclinics and hospitals. This system has resulted in large quantities of unnecessary (and costly) referrals, ancillary tests, hospitalizations, and long stays in the hospital.

As shown in Table 3, although Zhovkva has made great strides in restructuring its health system by reducing the number of beds, the health infrastructure is still large compared to the United States where there are only about 48 beds per 10,000 population. An ALOS of 15 days is still high compared to U.S. standards of about 6 days. The number of physicians in Zhovkva is comparable to the ratios found in the United States (25 physicians per 10,000 population); however, there is a relative lack of primary health care physicians and underuse of primary health care in the referral system. Figure 1 suggests how one might picture the structure of the previous system in Zhovkva and Figure 2 exhibits a cost-effective health care referral system that is often promoted in the international public health literature and that is guiding the restructuring effort in Zhovkva. Currently Zhovkva is somewhere in between.

Figure { SEQ Figure * ARABIC } Zhovkva Health Care System
{ LINK Word.Document.6 "E:\501-600\0546\ENGLISH\Chart 3.doc" \a \p }

As shown in Figure 2, hospital services are only one part of the total health and medical care system. This figure shows how one might visualize the relationship of population to level of health/medical care.

With regard to specific definitions of types of health and hospital care, we can define each level of care as follows:

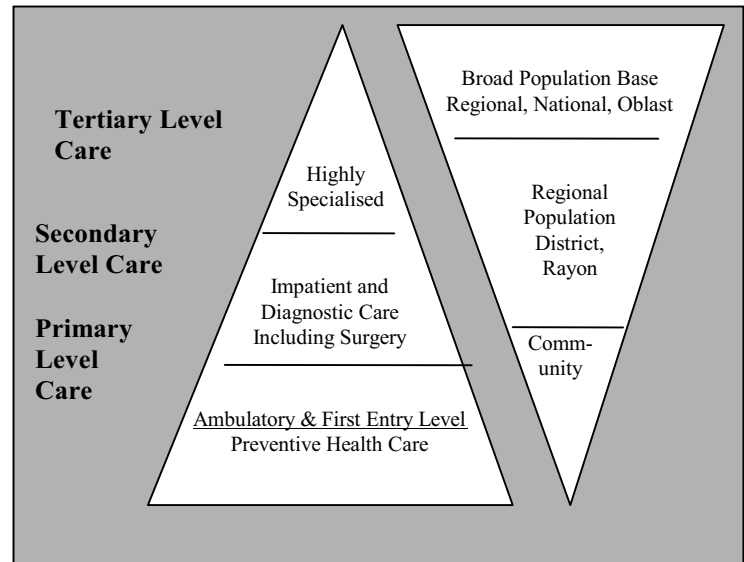


Figure 2 The Health System Pyramid

Primary Health Care (PHC). According to the 1978 Alma-Ata Declaration, “PHC is essentially preventive care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. PHC forms an integral function and main focus of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system, bringing health care as close as possible to where people live and work.

“PHC refers to the philosophy that health care should be available, adequate, accessible, affordable and acceptable. PHC as a service delivery policy permeates all strategies and thrusts of government health programs at the national, local and community levels, so that people can be active and self-reliant participants in the struggle for better health.”

Primary Medical Care. Primary medical care is basic or general medical care first sought by the patient for treatment of the simpler and more common illnesses. The primary care provider usually assumes on-going responsibility for health maintenance for the patient, refers the patient to secondary and often tertiary providers, and coordinates care for all of the patient’s health problems. Primary medical care is most frequently associated with solo physician and physician group practices but is increasingly found in hospitals and team practice settings. (Examples of this type of care would be pediatrics, Ob/Gyn, internal medicine, and family and community medicine and health services.)

Secondary Medical Care. Secondary medical care consists of services provided by medical specialists, such as cardiologists or urologists, who generally do not have first contact with

patients. Patients are usually referred by primary care providers but sometimes by themselves. A substantial portion of an acute care community hospital services fall into this category. Examples of this type of care in a hospital setting would be general surgery, ophthalmology, orthopedics, neurology, cardiology, hematology, and psychiatry.

Tertiary Medical Care. Tertiary medical care consists of services provided by highly specialized providers, such as neurosurgeons and oncologists, who frequently require sophisticated technological and support facilities, such as cardiac catheterization and high-energy radiation therapy. University teaching hospitals and specialty hospitals and medical centers are examples of tertiary care providers. (Examples are oncology, OB-high risk, neonatology, cardio-thoracic surgery, plastic surgery, pediatric cardiology, hemophilia, and genetics).

4.2 Challenges in Reaching the Optimal Health Care Pyramid

In working through reforms for system restructuring, the several well entrenched traditions in the Soviet health care system had to be considered, many of which are politically sensitive to change and some of which go beyond the health care system itself. Reforms in these areas will require a long time to design and implement. They include downsizing staff, establishing services for social patients, converting specialized to general hospitals, moving away from centralized norms and standards, and increasing staff productivity. These are discussed below.

Employment, Staffing, and Personnel Reductions. The concept of “rationalization” normally connotes potential savings and cost reductions in personnel costs. Personnel costs as a percentage of total costs in the health facilities in Zhovkva Rayon represent approximately 40 percent of the total costs and have recently risen to 70 percent in some facilities. If facilities are to be consolidated and closed, the potential for large saving is apparent. However, considering the economic, social, political, and employment situation in the country, serious consideration will have to be given to finding new positions for these personnel where possible. Some personnel, for personal reasons, will self-select out of the systems, and others may or may not like their new locations. In any case there will be reductions and some savings in personnel expenses, but these may not be as great as expected. While some of the positions can be focused into more primary care activities, other personnel will need to be moved to facilities which may already be “over staffed”. Considerable discussion will need to center around how, when, and where to handle these redundant personnel.

Social and Welfare Patients. Many of the patients in some of the hospitals are admitted for long periods of time primarily due to social or welfare issues and are often poor, hungry, and cold, and may have some minor medical problem, but they are not acute care patients and need not be institutionalized in acute care facilities. These patients are the concern of the system and a method of assisting them must be developed and implemented.

Concept of the General Hospital. The old Soviet health care system was built on the concept of many different specialties, subspecialties, and superspecialties, as well as the concept of many different types of hospitals with smaller, single buildings for each special disease type. From a productivity standpoint (capital, facility, equipment, and personnel) this system results in low productivity and duplication of equipment, personnel, and facilities. Other countries, outside the former Soviet Union (FSU), have moved toward the concept of a “general hospital” with various specialties becoming departments of one major facility. In this way all specialties can share the same critical mass of ancillary services (laboratory, radiology, physical therapy, pharmacy, etc.) and plant equipment (heating, water, sewer, etc.) and exploit economies of scale and scope, to achieve significantly higher productivity in all areas. While this concept is a new one for the Ukraine—and it will not be easy to build new facilities due to capital shortages—the idea and concept should be discussed and merits and disadvantages outlined. If a rationalization process is to be successful, the consolidation of many smaller, specialty facilities into a larger single facility could yield significant improvements in cost, quality, and productivity.

Norms and Standards. The existing health system relies heavily on norms and standards. There are norms for the number of physician visits by specialty type, norms for complexity groups, norms for length of stay by disease type, and medication and nutrition norms. While the concept of norms and standards is critically important from a scientific and professional standpoint, it can become a significant deterrent to improved productivity, especially in an environment that requires everyone to do more with less. This is the classic “scientific management” approach which worked effectively in the period from 1920-1970’s. However, norms keep personnel from striving for greater productivity, and personnel feel that if they achieve the standard they can then relax and need do no more. Standards imply there is only “one best way” to do things and everyone only needs to learn and to apply these standard methodologies. The most significant change in the area of quality assurance, quality control, and cost/quality improvement over the last ten years has been a movement away from rigid standards toward a more open, more questioning, more “try it, do it, fix it” approach. These norms and standards are especially apparent in the treatment of some diseases including TB and STD. Treatment protocols in other developed countries have moved toward almost exclusive treatment on an outpatient basis of these diseases. A review of the data and discussion with physicians has shown that patients are treated as inpatients and kept for long periods of time. While this may be correct procedure in a system with many resources, it is a waste of critical resources. The issue is less the method of treatment and more the issue of trying to find new ways to provide the services and treatment more cost effectively.

Staffing and Activity Levels. The Soviet health care system was built on the concept of a large number of specialty hospitals, with a high number of admissions, heavy referrals to specialists in the polyclinics, and long lengths of stay in hospitals. The system developed separate facilities for most medical and surgical specialties, and duplicated equipment, personnel, and ancillary services. The result was a system that required large numbers of hospital staff and personnel to handle these admissions, referrals, and outpatient visits, which over time became very labor intensive. This system worked well when it was fully

funded. However, the environment has changed dramatically and a new system design is needed in a resource poor environment.

In Zhovkva, a tour of the facilities, both hospitals and polyclinics, and discussions with hospital administrators, *showed that 1995 activity levels were significantly below those shown in the 1994 database, and that there were significant numbers of empty beds and underutilized out-patient services (especially in the afternoons) at every institution*. This means that the opportunity for consolidations of beds and outpatient services is a feasible option at this time. Additional consolidations are possible as more admissions are screened and the length of stay is reduced following the implementation of the new capitated global budget system.

4.3 Identifying Downsizing Opportunities

In making a general assessment of the Zhovkva health care system, a team of ZRP technical advisors working with the rayon health administration found that four town hospitals had major quality deficits. They then identified potential cost saving that would be achieved if these facilities were converted to outpatient units.

- Giyche (25 beds) has minimal diagnostic capabilities, including no working radiology unit, major facility maintenance problems, high energy costs, low and declining occupancy, few acute patients, and is a short distance (14 km) from the Rayon Hospital at Rava Rus'ka.
- Mageriv (25 beds) has had major difficulty attracting physicians (Ob/Gyn, pediatrician, internist), no working radiology unit, outdated and poorly functioning equipment, minimal diagnostic services, a shortage of medications and food, continual heating and electrical problems, a need for major maintenance on the building, a declining and low occupancy and few acute patients, and is only 15 km. from Rava Rus'ka.
- Dobrosyn (25 beds) has minimal staffing and diagnostic capabilities, equipment, supplies and medications, and houses primarily non-acute, social welfare patients with minor medical problems, a low and declining occupancy, high energy costs, and is only 10 km. from Zhovkva. If a facility for non-acute patients is still felt to be required, the new facility should be a unit of an existing facility which is on the centralized heating system in order to minimize the marginal energy costs for those patients.
- Dublyany (40 beds) has a shortage of medications and supplies, outdated and poorly functioning medical equipment, minimal diagnostic capabilities and a poor radiology unit, major problems with the 100+ year old building, (roof, water, sewage, and maintenance problems), is unable to change the building configuration (due to architectural monument), declining inpatient occupancy and few acute patients, and 40 percent of the area patients are going into L'viv for their medical care.

In 1994, the Central Rayon Hospital (Zhovkva Hospital) accounted for 49 percent of the total rayon health budget in 1994, with the other rayon-level facility (Rava Rus'ka Hospital) accounting for an additional 26 percent. Three city hospitals (Dublyany, Maheriv, and Kulykiv) accounted for an additional 15 percent of the budget. The remaining three hospitals—two district hospitals at Dubrosyn and Giyche and a venereal disease hospital—accounted for only 6 percent of the budget. Five physician staffed ambulatory health centers (the Primary Care Center units at Turynka, Zibolky, Larykiv, Bushkiv, and Potelych) together accounted for only 3 percent of the total budget.

The direct monetary savings from closing the inpatient facilities in the four town hospitals at Dublyany, Mageriv, Dubrosyn and Giyche would be in the form of reduced consumption of energy, food, medicines, and linens. Table 6 lists each facility's expenditures on these four items during 1995 (based on nine months of data, annualized).

<p align="center">Table 6 Expenditures on Energy, Food, Medicines, and Linens Dubrosyn, Giyche, Mageriv, and Dublyany Hospitals, 1995 (annualized) (000 kopoulos)</p>					
Expenditure Category	Dubrosyn Hospital	Giyche Hospital	Mageriv Hospital	Dublyany Hospital	Total
Energy (Article 3)	261,919	371,333	248,800	1,510,123	2,392,175
Food (Article 9)	198,473	470,800	236,533	870,022	1,775,828
Medicine (Article 10)	483,351	277,600	843,600	2,144,933	3,749,484
Linens (Article 14)	-	15,200	-	-	15,200
Total	943,743	1,134,933	1,328,933	4,525,078	7,932,687

There is no direct basis for estimating the share of energy and food expenditures which would be saved by closing inpatient facilities. In Kulikiv, where inpatient beds were closed in July of this year (1995), the energy savings were substantial. Instead of needing to be fired up twice per day, the furnaces need to be fired up only once per day. In addition, the space formerly used for inpatient beds does not need to be heated at all. In our estimates, we assume that energy savings will amount to 50 percent of 1995 expenditures. We also estimate conservatively that food savings will also be equal to 50 percent of 1995 expenditures. With the closing of inpatient services, no meals will need to be served to patients, and staff will require only one meal per day. In the case of medicines, we used expenditures on medicines per outpatient visit in the rayon's five ambulatory facilities

(14,967 coupons), in conjunction with the number of outpatient visits in each hospital, to estimate expenditures on medicines for outpatient services for each hospital in 1995. We took the difference between each hospital's total expenditures on medicines and our estimate of its expenditures on medicines for outpatient services as our estimate of inpatient expenditures on medicines—all of which was assumed to constitute savings from the closing of inpatient services.² Lastly, we assumed that all linen expenditures would be saved from the closing of inpatient services. The resulting estimates of direct monetary savings from the closing of the four town hospitals are reported in Table 7.

² Some of the savings on food, medicines, and linens might be consumed at rayon-level facilities when patients are transferred. However, we have assumed that the recommendations we proposed for these institutions will reduce the ALOS and the total number of hospitalizations sufficiently to offset these additional costs.

<p align="center">Table 7 Estimated Savings on Energy, Food, Medicines, and Linens from Closing of Inpatient Services at Dubrosyn, Giyche, Mageriv, and Dublyany Hospitals (000 koupons)</p>					
Expenditure Category	Dubrosyn Hospital	Giyche Hospital	Mageriv Hospital	Dublyany Hospital	Total
Energy (Article 3)	130,960	185,667	124,400	755,062	1,196,088
Food (Article 9)	99,237	235,400	118,267	435,011	887,914
Medicine (Article 10)	301,996	101,932	626,504	1,036,701	2,067,133
Linens (Article 14)	-	15,200	-	-	15,200
Total	532,192	538,199	869,171	2,226,774	4,166,336

In addition to the direct monetary savings from closing inpatient services at these four hospitals, the staff currently assigned to their inpatient departments will be freed to pursue other work. Table 8 presents the current staffing of these four hospitals for inpatient and outpatient services. Thirty-seven percent of the total staffing of these four hospitals (82 of 219 persons) is currently assigned to inpatient services. These staff would be freed for other assignments with the closing of inpatient units. A surprising feature of the current staffing of these facilities is the relatively small number of doctors currently assigned to inpatient services (a total of three doctors). For example at Dublyany Hospital, only one of 23 physicians on the staff is assigned to inpatient services. At the other three hospitals, only two of 12 doctors are assigned to inpatient services. This imbalance in staffing between doctors and other staff in inpatient services may make it more difficult to use the freed inpatient staff cost-effectively to provide ambulatory services. In addition, some of the "other staff," particularly cooks, cleaners, and furnace stokers may be difficult to employ productively in ambulatory facilities. If it proves possible to eliminate some of these positions over time, this will result in additional savings from closing the inpatient facilities. Salaries (Article 1) and salary taxes (Article 2) currently account for a large part of the total expenditures in these four facilities: Dubrosyn Hospital (2.5 billion koupons, 72.1 percent of total expenditures), Giyche Hospital (2.6 billion koupons, 69.1 percent of total expenditures), Mageriv Hospital (3.3 billion koupons, 71.1 percent of total expenditures), Dublyany Hospital (9.1 billion koupons, 66.5 percent of total expenditures). It is clear from

these data that staff reduction has the potential to produce substantial additional savings for the rayon health system over time.

Table 8 Current Staffing of Inpatient and Outpatient Departments at Dubrosyn, Giyche, Mageriv, and Dublyany Hospitals, 1995					
	Dubrosyn	Giyche	Mageriv	Dublyany	Total
Inpatient Departments					
Doctors	1	0	1	1	3
Nurses	6	5	5	9	25
Medical Aids	5	4	7	12	28
Administrative Staff	1	1	1	1	4
Other Staff	8	8	6	0	22
Subtotal	21	18	20	23	82
Outpatient Departments					
Doctors	2	4	4	22	32
Nurses	2	6	16	34	58
Medical Aids	3	2	5	12	22
Administrative Staff	0	0	0	0	0
Other Staff	3	1	5	16	25
Subtotal	10	13	30	84	137
TOTAL	31	31	50	107	219

4.4 Health System Restructuring: A Summary of Reform Options

In addition to collection of substantial data on health infrastructure and utilization (see Annex A), a strategic mapping of the rayon was done to more fully understand the supply of and demand for services.

Zhovkva Rayon

Legend:

- Центральна районна лікарня / Central Rayon Hospital
- Район-Руська райлікарня / Rayon Hospital
- Міські лікарні / City Hospital
- Міська поліклініка / City Polyclinic
- Дільничі лікарні / District Hospital
- Лікарські амбулаторії / Ambulatory
- Шкірвендисансер / Specialized Medical Facility
- ФАПи (всього 58) / Primary Care Center (total 58)

Settlements: Рахине, Вожучин, Добуша, Топольське, Тополь, Майдан-Гурни, Верешини, Пшеорск, Жувце, Мазнуха, Каров, Хлевчань, Беля, Бутыны, Дворыш, Боянети, Туринка, Желуди, Підлісся, Сопіш, Мокротин, Матюшин, Мервичи, Зашків, Гряди, Великі Грибовичі, Дубляни, Малехів, Ясиска, Бриховичі, Жорниці, Янов-Львівський, Івано-Франково, Берантов, Терновий, Шкіль, Шко-Славинська, Старичи, Пушча, обляны, 388, 397, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

4.4.1 Inpatient Restructuring

The major recommended reform in the hospital area was to close the inpatient units of the four small town hospitals in Giyche, Mageriv, Dublyany, and Dubrosyn, with a total of 115 beds. This recommendation was due primarily to resource deficits and quality concerns, but it also had the potential to provide some significant cost savings which could be utilized to improve services in other areas. It was recommended that some of these resources and the associated labor be reallocated to the area of health prevention and primary health care, improved primary medical care, and the upgrading of other needed services, programs, and facilities at the other two major hospitals.

In a situation where the rayon health budget is severely limited, as is the case currently, difficult choices are necessary. Scaling back the budgets to all hospitals proportionately will rarely be the best strategy. Instead, it is important to protect the budgets of one or more key facilities so that quality acute care is still available within the rayon. The town hospitals at Dublyanyi, Mageriv, Dubrosyn, and Giyche are no longer capable of providing quality acute care, because their diagnostic and treatment options are extremely limited. It is no longer in the best interests of patients to receive acute care in these facilities. Reforms plans include:

- The acute care inpatient services of these town hospitals should be terminated as soon as possible, and their acutely ill patients should be transferred to the rayon facilities at Zhovkva and Rava Rus'ka.
- These facilities should be converted to ambulatory care facilities, as has been done at Kulikiv. They should operate a limited number of day beds for the use of ambulatory patients. An important activity of these units should be to treat on an outpatient basis chronically ill patients and acutely ill patients after they have been diagnosed, treated, and discharged from rayon facilities.
- Eliminating inpatient services at these four facilities will produce annual savings in energy (heating), food, linens, medicines and supplies of approximately 4.2 billion kouspons. These savings should be used to improve the quality of ambulatory diagnostic and treatment facilities and to strengthen the transportation services available to the health system. This improved transportation system might utilize a combination of ambulance, automobile, and minibus transportation. It would be used to transfer patients to and from rayon health facilities from outlying areas and medical staff from their homes to outlying places of work or to assist with outreach services.
- In addition to the direct monetary savings discussed above, the closing of inpatient services at these facilities will free a total 82 inpatient doctors, nurses, medical aids, and other staff (37 percent of all staff currently working at these facilities). These freed inpatient staff should be used to provide additional ambulatory services at these facilities, to reinforce the staff of other ambulatories, to provide more outreach

services at feldscher units, and to provide more home visits. In some cases, depending on their place of residence and overall rayon staffing requirements, they may be transferred to the polyclinic or inpatient departments of the rayon facilities; or they may work in districts such as Mageriv which are presently understaffed. Staff may also need to be transferred temporarily to cover for other staff who are temporarily absent. A strengthened rayon health system transportation system will facilitate such a redeployment of staff.

- The expanded mission of all ambulatory health units in the rayon should be to strengthen preventive health services and primary medical care. They should treat as many patients as they can on an outpatient basis, consistent with accepted treatment protocols; and they should refer only seriously ill patients and difficult cases to the rayon polyclinics and hospitals. By doing so, they will make an important contribution to the more cost-effective use of the rayon facilities.
- Strengthened rayon transportation facilities should be used to provide patients with improved access to rayon facilities at Zhovkva and Rava Rus'ka. In most cases, public transportation systems or private transportation will be available. For some patients or in some locations, however, it may be necessary for the rayon health system to provide transportation services.
- When patients from outlying areas need to be hospitalized in Zhovkva and Rava Rus'ka, it will be helpful if there are temporary low-cost accommodations available in these places for their close family members. The health system should work with local authorities to create such temporary accommodations, charging a nominal sum for these services.
- Particularly during the winter it has been necessary for the health system to provide lodging and food to welfare patients (mostly poor elderly people). This is an important service that the system should continue to provide as long as there are no alternatives. However, it should be done practically and efficiently. These services should be provided in a single facility where the additional energy costs are lowest (for example, where the facility is part of a central heating system). Such welfare wards would not need to be staffed with medical personnel at night. Strengthened rayon transportation services can be used to transport welfare patients to and from this location.

System-wide Approach to Rationalization

Scaling back the budgets to all hospitals proportionately will rarely be the best strategy. Instead, it is important to look at the overall health care system and choose to protect the budgets of one or more key facilities so that quality acute care is still available within the rayon.

4.4.2 *Primary Health Care Restructuring*

As shown earlier, the rayon health system is not pyramid-shaped. There is a strong feldscher system consisting of 58 units spread throughout the rayon which provides high-quality primary health care. In contrast, the primary medical care system, which would ideally provide family health services through a network of family medicine practitioners, is severely limited in size and scope. There are only five ambulatories currently in the rayon, each of which is staffed by an internist and a pediatrician. In addition, the town hospitals provide similar services to their districts. In contrast, the secondary health system, which consists of rayon and town facilities, is over-developed and, as already noted, provides care of uneven quality. Reforms plans include:

- As noted above, the staff freed by closing the inpatient services of the town hospitals should be reassigned to strengthen the primary health and primary medical systems throughout the rayon. This single step will simultaneously eliminate the excessive number of secondary facilities and the understaffing of primary care.
- Also as noted, the rayon health system's transportation network should be strengthened, not only to transport patients to and from rayon facilities from outlying towns but also to provide greater mobility to medical staff in performing outreach activities.
- Doctors should increase their outreach services to feldscher units. In addition to treating patients in these units, they should accompany feldschers to the homes of patients to promote preventive health care. They should also use every opportunity to instruct groups of people about sound health practices. The primary threats to health in Zhovkva rayon—all of which can be lessened by effective health education—are the resurgence of some infectious diseases (for example, diphtheria, TB, STDs), environmental health hazards (including automobile accidents), smoking, excessive drinking, and unhealthy diets. All employees of the health system need to instruct the population about these dangers and to serve as good examples for the population in their own behavior.
- The rayon should provide additional training to all ambulatory facility staff in preventive health care. In addition, ambulatory care physicians—particularly internists, pediatricians, and Ob/Gyns—should receive appropriate training to enable them to ultimately become qualified "family health practitioners." Those completing such training should be rewarded through appropriate financial and moral incentives and be placed in areas of highest need throughout the rayon.
- A work group of ambulatory physicians and nurses should be formed in the rayon to develop improved protocols for the treatment of patients on an outpatient basis. The purpose of this work group, which should be ongoing, would be to continually improve and monitor the quality of ambulatory care throughout the rayon while simultaneously attempting to reduce the number of unnecessary referrals to rayon

hospitals and polyclinics by treating more patients at the primary level. The group should develop an effective means of monitoring quality of care (for example, by reviewing a random sample of medical records) and should identify suitable indicators of success in reducing unnecessary referrals. The working group should also develop ways to record referrals to rayon-level and oblast-level facilities, to track the cost of consumables at the facility level, and to reduce the frequency of redundant and/or unnecessary diagnostic procedures at different levels of the health system.

- The work group should assist in the formation of similar groups in each facility to implement the improved treatment protocols and to monitor success in simultaneously providing higher quality of care and reducing unnecessary referrals to rayon-level facilities.

4.5 Reform Actions Taken

4.5.1 Inpatient Restructuring

With *ZdravReform* assistance, the rayon health administrator was successful in obtaining a decree from the rayon governor to restructure the health care delivery system following the guidelines discussed in earlier sections. Several consolidations were achieved in 1996. At Rava Ruska Hospital, internal medicine and neurology beds were merged into one department resulting in the reduction of 10 beds. At Zhovkva Central Hospital, the ophthalmology department was reduced by 30 beds, 10 of which were closed and 20 converted into neurology beds. Giyche and Dubrosyn town hospitals were converted into 24-hour urgency physician ambulatory clinics. Previously, in 1995 a neurology specialty hospital was converted into an ambulatory unit, and the neurology service was consolidated into the Central Rayon Hospital. In 1997, a new physical rehabilitation hospital will be completed in Giyche which will consolidate these services in Zhovkva and surrounding rayons.

4.5.2 Primary Health Care

A new family medicine clinic was opened in the village of Zibolka in August 1996. The physician is a former pediatrician who took the family medicine short course at the L'viv Medical University. One other physician from Zhovkva Rayon has graduated from the course and is practicing family medicine in Dublyany. More physicians are planning to take the course in 1997. A primary care work group has been appointed with a chairman and is meeting regularly to plan future family medicine clinics in the rayon. One site is Lubelig near Dobrosyn, where a new coal mine is planned to be opened. Four hundred miners will live and work at that site. Another site is planned near Dublyany at either Makchiv or Hryada. The hospitals at Giyche and Dobrosyn have been converted into 24-hour urgency centers with nurse coverage on site at all times.

5.0 MANAGEMENT REFORMS

Approximately three-fourths of the resources consumed by the rayon health system are consumed by the two rayon hospitals in Zhovkva and Rava Rus'ka. The new capitated global budget system will bring with it new incentives to treat patients in a more cost effective manner. As part of the inpatient reform package, the two Zhovkva rayon hospitals should begin developing new quality assurance processes, education, and improved levels of training for personnel to reduce the length of stay of inpatients, to improve utilization of day beds, and to perform more surgery on an out-patient basis.

5.1 Proposed Reforms in Quality of Care and Clinical Pathways

5.1.1 Use of Clinical Pathways

Working with the rayon health administration, the *ZdravReform* technical advisory team made the following observations about how clinical pathways can be used to improve the cost-effectiveness of care:

- A review of 25 medical charts by the physician member of the *ZdravReform* team showed that the length of stay for all cases could be reduced by at least one day, and nine of the 25 cases could reduce length of stay by more than one day.
- The two hospitals should form work groups of physicians and nurses to develop improved treatment protocols and quality of care monitoring mechanisms to promote more cost-effective care. Once improved protocols have been developed, these work groups should continue to monitor the quality of care provided by reviewing randomly selected case records. They should also develop and monitor indicators of more cost effective care, such as the ALOS in inpatient facilities, the number of outpatient surgeries performed, and the occupancy rate of day beds.
- The members of the work group should provide short-term training to all physicians and nurses in these facilities to inform them about the new protocols, and they should assist in the formation of department-level units to promote improved quality and efficiency based on these protocols.

5.1.2 A Multipurpose Tool

Clinical care pathways are management instruments that enable doctors and nurses to simultaneously control use of resources and improve quality of service. The Zhovkva health administration is following the example of L'viv City Hospital No. 1, which has begun designing and implementing clinical pathways for 25 of the highest volume diagnoses. Through the combined efforts of primary physicians and specialty physicians in the polyclinics and hospital, City Hospital No. 1 has used the pathways to map the course of diagnosis and treatment of a patient from the primary clinic through the polyclinic and hospital back through the post discharge course to the primary physician. The analysis of this mapping procedure has revealed duplication of testing and

medications, unnecessary days in the hospital waiting for discharge, outdated and ineffective treatment and medications, and the need for patients and families to be educated and part of the care process in order to prevent costly repetition of disease.

Table 8 shows the time period for treatment in the columns where polyclinic pre-admission visits, hospital stays, and post-hospital visits and follow-up care are listed. Each row specifies a different aspect of patient treatment including initial assessment, vital signs, laboratory tests, x-ray/EKG tests, medications, treatment and so on. For each type of activity related to patient care, a clinical pathway tracks what should be done on each visit or day of the patient stay. A clinical pathway is a multipurpose management instrument: It can be used to organize the continuum of care; to track the costs of care; to monitor quality of care and treatment decisions; to facilitate communication among physicians, nurses and patients about treatment plans; to identify where physicians and/or nurses need more training; to provide information on how to restructure the health facility; and to supplement patient records with additional information on how the patient responded to the treatment plans.

Table 9 gives an example of a draft clinical pathway, developed by City Hospital No. 1 in L'viv, that was submitted to the Zhovkva health care administration to adapt to the needs of the Central Rayon Hospital. The generic elements of the protocol are described below.

Clinical Protocols and Patient Information. The left side of the heading can be used to develop a typical clinical protocol. It provides typical information on the hospital and diagnostic information about the “template” version of any diagnosis. The right side contains the patient information when the template is adapted for actual cases.

Levels of Care. The vertical columns represent visits or days at various levels in the continuum of care of a patient with a designated diagnosis. In the example, there are visits to a primary clinic, followed by hospital days, and then final care in a polyclinic or feldscher unit.

Actions. The action column includes the typical services a patient could receive in any primary clinic, polyclinic, or hospital in Ukraine. The physician reviewers enter into the appropriate visit or day columns the activities that should occur in a typical course of treatment for a designated diagnosis. For example, they would record the typical laboratory tests, X-rays, medications and treatments which would be ordered for a typical patient with diabetes when visiting a primary clinic, both before being admitted and after being discharged from a hospital. The protocol also includes the posting of the same activities for each day the patient is in the hospital.

Clinical Activities. The first seven rows of the template protocol display all the activities performed by the doctor or nurse in a clinic setting. Usually, the patient is a passive subject during these activities and does not contribute to their performance.

Patient Participative Activities. The last rows of the template protocol displayed lists activities that should include patient and family participation.

- *Psycho-social Needs*—The patient may need assistance of a psychiatrist in learning how to cope with a disease. Problems at home or pressure at work for which the patient needs counseling may be contributing to the disease.
- *Teaching*—The patient and family need to participate at home in carrying out instructions from the doctor on nutrition, medications, and infection control.
- *Continuous Care Plan*—This section is maintained by the patient and presented to the practitioner at point of admission or registration at each level of care. The doctor, nurse, patient, and family develop plans on the day of admission for a course of treatment after discharge from the hospital.

5.1.3 Variance Tracking

The next step that the protocol committee is starting is the matching of the template protocols of a typical course of treatment with actual patient cases. A variance is an unanticipated event, such as an infection or drug reaction, that would alter the length and course of treatment. The form used is a companion piece to the clinical protocol. The standard format is shown below in Table 10.

Over a period of six months to a year, variance patterns can be detected, for example, a series of infections that can be traced to an operating room or a staff member who is an unsuspecting carrier of a microscopic pathogen. Some patterns can be used constructively, for example, as an indicator of additional training needed for a practitioner or other staff member to update skills in order to maintain accepted care outcomes.

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Table 10 Variance Tracking Record

Date	Time	Variance (what)	Source (why)	Action Taken	Responsible Recorder

5.2 Management Development and Training

As discussed in Section 4.2, the Soviet health care system was one which allowed almost no management autonomy to health facility managers. Senior-level health administrators monitored the performance of facility managers with detailed norms and standards, stifling creative management solutions to solve problems. Managers had little opportunity to challenge the philosophy that the health care system should be built on the concept of a large number of specialty hospitals, with high numbers of admissions, heavy referrals to specialists in the polyclinics, and long lengths of stay in hospitals. Most chief and deputy chief physicians are not even familiar with the budgets and costs of operating their institutions.

There was little reason to challenge this relatively inefficient approach to health care when funds were available. But economic downturns and resultant underfunding of the health care system which prevents application of centralized norms, as well as the introduction of more market-oriented methods which require budgeting flexibility, now challenge the appropriateness of traditional management practices.

Clearly, the new capitated budget system will require that chiefs of hospitals and polyclinics become better and creative managers of resources. *ZdravReform* worked with managers in Zhovkva to develop new management skills, primarily through workshops on management and leadership. The workshops covered the following topics:

- *Strategic Thinking and Strategic Planning*
- *Management of Health and Medical Care Systems*
- *Rationalization & Restructuring: Effects on Employment, & Staffing*
- *Social and Welfare Patients*

- *Personnel Staffing, Productivity, and Activity Levels*
- *Quality, Productivity, Norms, Standards, and Personnel Performance*
- *Health Facility Management and the Concept of the General Hospital*
- *Alternative Forms of Revenue, Health Insurance Concepts, and Payment Systems*
- *Health Economics, Markets, Marketing, Privatization, Private Practice*
- *Leadership*

5.3 Quality of Care: Actions Taken

A medical oversight/cost containment committee has been appointed in the Central Rayon Hospital. The hospital medical director is the chairman. Many departments are working with clinical pathways and are establishing length of stay reduction targets which are monitored monthly. ALOS has been reduced over the last six months from 16.3 to 14.7 days, or by 1.6 days. The committee core meets on a daily basis to review utilization problems. The committee conducted a roundtable for all department heads on clinical pathways and on user fees during 1996.

Department heads are starting to develop policies on efficient use of personnel. Thirty nursing and aid employees have been laid off. A few doctors have been pensioned. All salaries have been reduced to 75 percent level.

6.0 FINANCIAL MANAGEMENT REFORMS

6.1 Proposed Financial Management Reforms

With prospects for increased financial autonomy, health care facilities are looking to strengthen their management accounting systems to ensure that resources are used efficiently, while maintaining an acceptable quality of care. The Zhovkva rayon health administrator gave priority to two management accounting systems:

- decentralized budgets by major subunit and by department, with corresponding budget performance reports; and
- cost management including improved cost accounting and monitoring actual costs.

New Payment Methods Require New Management Skills

New provider payment methods will require that chiefs of hospitals and polyclinics become better and more creative managers of resources. With prospects for increased financial autonomy, health care facilities are looking to strengthen their management accounting systems to ensure that resources are used efficiently, while maintaining acceptable quality of care.

6.2 Proposed Reforms for Decentralized Budgets and Budget Performance Reports

Department-level budgeting is a necessary step for decentralizing management authority. In many countries, mid-level managers who are directly responsible for implementing a specified activity or program are usually the most knowledgeable about identifying ways to allocate resources more efficiently. Often, better plans are made and achieved when department managers become fully involved in the budget planning of their department.

In March 1996, Zhovkva took the first steps to institute a more decentralized budgeting system. This meant tracking the budget of the central hospital by the main subunits including the inpatient department and the polyclinic, and then by each department in these main subunits. A sample of results is given in Table 11 for the main subunits and in Table 12 for the inpatient department.

Table 11
Zhovkva Central Rayon Hospital: Portion of Budget to Main Subunits in 1996

Major Subunit	% of Budget
Administration	11%
Inpatient Unit	60%
Polyclinic	29%

Table 12
Zhovkva Central Rayon Hospital: Inpatient Unit Departmental Budgets

Department	% of Subunit
<i>Administration:</i>	15%
Administration	8
Support Services	7
<i>Paraclinics:</i>	5%
Laboratory	3
Exam Room	1
X-ray	1
<i>Clinical Departments:</i>	80%
Therapy	10
Ambulance	6
Infectious Diseases	8
Surgery	21
Ob-Gyn	15
Ophthalmology	5
ENT	6
Pediatrics	9
TOTAL	100%

Zhovkva is implementing the basic steps given in Box 1. The importance of the **first step**, identifying the responsibility cost centers of the health facility, should not be underestimated. This determines which managers have budget and cost responsibilities. In the **second step**, economists should realize that they can simplify cost accounting allocation methods while still maintaining important accuracy in department-level budget estimates. The **third step**, defining budget responsibility has proved particularly challenging during the economic crisis when many budget articles are underfunded or not funded at all. One approach which has been used in Zhovkva Rayon, has been to pay particular attention to department budgets for medicines. Rather than allocating medicines in a haphazard way based on random requests, budget allocations for medicines are being managed by creating budget limits for each department. This ensures that medicines are allocated more fairly, as well as according to medical need.

The **fourth** step is important to complete before head doctors of major subunits or departments within those subunits assume more responsibility for managing their budgets. Actual budgets should be compared with actual expenses. Actual budgets should also be linked to performance indicators that measure volume of activity (overall and by type of service), productivity of inputs (especially labor), costs per service, and quality of care.

Box 1
Summary of Steps for Breaking Down and Decentralizing Budgets
at Zhovkva Central Rayon Hospital

1. ***Define Organizational Responsibility:*** Economists and senior managers clearly identify each unit of responsibility including departments, paraclinics, and other administrative/overhead units.
 2. ***Calculate Departmental Budgets:*** Using basic cost accounting techniques, the budget for each responsibility area identified in item “1” is calculated for every line item in the budget. Zhovkva will eventually develop department-level revenue budgets associated with user fees. Eventually, department-level expense and revenue budgets will be linked.
 3. ***Defining Budget Responsibility:*** Identify those line items within the department-level budget that are controllable by the department head and those which cannot be controlled by the department head.
 4. ***Maintaining Budget Accountability Through Budget Performance Reporting:*** Identify clinical, quality, and workload indicators that can be used to monitor how well the department head is using his/her budget.
 5. ***Decentralizing Budget Responsibility:*** After systems of responsibility and accountability have been agreed upon and methods of budget calculation are approved, identify those managers who are able and willing to assume more budget responsibility.
 6. ***Computerization:*** Computerize management accounting systems by training economists in decision-making information system software (e.g., spreadsheets) and by developing database software for standardized components of analysis.
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Suggestions for performance indicators are given in Table 13. Because of the economic instability and difficult budget conditions, Zhovkva Rayon Hospital has not yet taken major steps to decentralize budgets to department heads as described in the **fifth step**. Rather, the new budget information is being discussed with subunit and department heads to familiarize them with these techniques and to prepare them for the time when they will assume more financial responsibility.

Clearly, the task of implementing and maintaining management accounting systems is easier with computerization; however, in many facilities computers are not yet available to the economics unit. The economics unit of Zhovkva Central Rayon Hospital has just acquired a computer through *ZdravReform* and is taking the first important step, training economists and key financial managers in spreadsheet software, so that they can design their own cost accounting, budget and analysis spreadsheets.

Table 13 Budget Performance Indicators Under Consideration at Zhovkva Central Hospital	
Type of Indicator	Sample of Budget Performance Indicators for Departments
Number of Staff:	Numbers of doctors, nurses, health aides, and other staff
Salary per Staff:	Salary/total staff Salary/doctor Salary/nurse
Productivity:	<p>FTEs* per occupied bed = $\frac{\text{inpatient FTEs}}{\text{average daily census}}$</p> <p>Outpatient labor hours per visit = = (outpatient FTEs x 2,080**)/total outpatient visits</p> <p>Inpatient labor hour per discharge = = (inpatient FTEs x 2080)/total discharges</p> <p>*FTE = full-time equivalent labor **assumes 2,080 hours worked per person per year</p>
Volume, Capacity	<p>Actual number of bed-days, Number of outpatient visits, Occupancy rate = patient days/(365 x beds) Length of stay = patient days/total discharges Average daily census = patient days/365 Bed turnover rate = number discharges/bed</p>
Other Efficiency	<p>Actual labor cost per bed-day, Actual nutrition cost per bed-day, Actual medicine cost per bed-day.</p> <p>Budget per discharge Actual budget per bed-day, Actual budget per visit (outpatient)</p>
Health Outcome	Number of deaths

6.3 Proposed Reforms in Cost Management

Cost accounting can be used for several purposes including (a) setting prices, (b) determining surpluses and losses, (c) assessing the efficiency of service delivery (e.g., departmental performance reporting, labor productivity,), and (d) creating budgets for management centers of responsibility. The selection of cost accounting tools depends on how the cost information being collected will be used. In Zhovkva, costing methods were chosen to suit current conditions where user fees recover partial rather than full costs, where the hospital is legally required to set separate prices for each medical and ancillary service (rather than per case), and where intrafacility payments are required to track resources (especially medicines) within the facility. These methods were also used to support budget decentralization calculations.

In FSU countries, the tradition has been to focus on engineered, planned (or standard) costs. Under new payment methods, it is important that health care facility economists regularly track actual costs of services. Actual costs per unit of service depend on actual department budgets, the actual volume of services, and the actual case mix treated during each period of time. With appropriate cost management, managers can compare estimated standard costs per bed-day with actual costs per bed-day. Similarly, they can compare the standard cost for a treatment or case set through an interfacility payment with the actual costs incurred during a particular month.

Based on the rationale above, the cost management methods being introduced at Zhovkva Central Rayon Hospital emphasize accurate and detailed procedure-level costing for ancillary and clinical departments. Overhead costs are allocated directly to ancillary and clinical departments, rather than to ancillary and then to clinical departments. Generating fully loaded bed-day costs required too many interdepartment assumptions and would be irrelevant to the applications needed: user fees and intrafacility resource allocations. When clinical and ancillary departments are the final cost centers, greater benefit could be obtained from carefully identifying direct and indirect operating costs that are related to costing activities or procedures. Overall, the methods use a level of detail that is commensurate with the department's ability to control or influence its costs.

In essence, Zhovkva lumped together into an overhead budget the various administrative, maintenance, and general support functions, and then allocated the functions to final cost centers which include both medical and ancillary departments (single step-down). Within each clinical bed and ancillary department, procedure-level costs are calculated using relative value units (RVU) methods, in which the resources of one procedure, complexity group, or case were measured "relative" to the others. RVU methods were selected because Zhovkva economists already had some experience with them, and because they can be applied quickly, using as much or as little detail as time and resources allow, yet generate reliable and accurate results. It is beyond the scope of this paper to explain the

details of RVU costing; for more detail, the reader is referred to a management accounting manual developed by the *ZdravReform* Program.³

The initial experience in Zhovkva showed that most of the inpatient departments had a manageable list of complexity/case groups or procedures that could be used to classify the types of treatments provided in medical departments for the purposes of costing. In the FSU system, complexity groups classify patients according to similar diagnoses, with further breakdowns made according to ALOS. On the outpatient side, statistics were weaker in terms of describing the types of visits made. Consequently, the economists had to rely on medical staff judgments to determine RVUs rather than on an objective measure. In the case of ancillary tests, however, information was often available on groups of procedures within a department classified according to the length of time required to conduct each procedure.

6.4 Financial Management: Actions Taken

Cost calculations are gradually being done to determine department-level budgets; however, there has been difficulty in actually decentralizing the few government budget chapters that remain fully or partially funded. The drug category is the only one that can be delegated to the departments at this time. The administration has been testing salaries and vacation pay policies by department during the summer.

7.0 USER FEES

7.1 Proposed User Fee Reforms

In Zhovkva, senior management realized that even under the new global budget system, budgets would be insufficient to cover all the costs of services, and thus they began to consider adoption of user fees.

User fees can achieve multiple goals that reinforce the benefits of global budgeting. Specifically:

- User fees can generate funds that can be reinvested in the health facility to improve quality and buy equipment and supplies. Doctors need good facility conditions to do their work and patients benefit from the improved quality of care.
- The structure of user fees (where fees are highest at hospitals, then polyclinics, and lowest at outpatient primary health care ambulatories) can improve efficiency of the health care system by encouraging patients to seek more care at the primary care level and go to higher-level facilities only when referred by a primary health care physician.
- User fees stimulate productivity of physicians and other health staff by providing bonuses to those who provide quality and a high volume of services.

³ Wouters, A. and Else, B. *Implementing Management Accounting and Control Reforms in the NIS: A Manual for Health Care Organizations*, ZdravReform Technical Report WEST NIS-2, 1996.

- User fees can improve health care for the poor when mechanisms are put in place to provide exemptions for those who are really too poor to pay. When quality of care improves through reinvested user fee revenues, all patients benefit.
- User fees can encourage patients to assume more responsibility for their own health. If patients pay part of the cost of their health care treatment, they will reduce requests for unnecessary health care services.

Senior management is in the preparation phase for setting up user fees. Box 2 outlines the major steps guiding Zhovkva's preparation for user fees. For more detail on each of these steps and examples of what has been done in Ukraine, the reader is referred to (Stevens, Wouters, 1996).⁴ In order to implement user fees, health facilities in L'viv oblast must be established as legal entities as well as registered with rayon authorities. Zhovkva is identifying a list of services to be charged using the recommendations of its health professionals to determine which services should and can be charged for. Prices for each service are based on cost calculations described in the previous section. Zhovkva management is still developing a policy on how user fee revenues will be allotted to taxes, restocking of various disposable supplies, salary bonuses, and reinvestment in the user fee departments. In the last several months, the rayon health administrator named a user fee director and plans to hire cashiers for the facility. *ZdravReform* is working with the user fee director, senior economist and chief accountant to establish an information system that will collect patient-level data for those patients who pay fees so that the financial returns of the user fee program can be monitored on a regular basis. The staff is also working on finding low-cost ways to ensure and improve the quality of services and to inform the population of the upcoming user fee charges.

7.2 User Fees: Actions Taken

In mid-1996, the rayon health administration and *ZdravReform* held a roundtable on user fees for all health managers and other senior officials in the rayon. In late 1996, the Zhovkva rayon health administrator obtained the necessary approval that establishes the Central Rayon Hospital and all affiliated facilities as legal entities, a necessary condition for launching user fees. Senior health staff also worked out a proposed list of services to be included in the user fee program:

- regular exam for employees of enterprises;
- a bill of health certified by a psychiatrist and narcologist permitting a person to carry weapons;
- a bill of health issued by the medical advisory committee on patient's request;
- a medical examination and certificate prescribing treatment at a health resort;
- selection of eyeglasses on patient's request;
- non-therapeutic abortions;
- examination and treatment in the electropuncture diagnostics room;

⁴ Stevens, J. and Wouters, A. *Preparing a Hospital for Global Budgeting: The Case of City Hospital No. 1 in Lviv, Ukraine*. *ZdravReform* Program 1996.

Box 2
Implementing User Fees: Some Basic Steps

1. **Legal Framework:** Obtain necessary oblast and rayon or municipal authorization.
2. **Identify List Of Services To Be Charged:** Consult physicians and patients about willingness and ability to pay for services.
3. **Cost Calculations:** Calculate costs, including minimum variable costs, on which to base prices.
4. **Use Of Revenues:** Determine the share of revenues, after taxes, to be reinvested in the facility, to be paid as incentives to staff, or to support general facility needs.
5. **User Fee Personnel:** Appoint a user fees director and the necessary support staff, including cashiers and computer staff.
6. **Establish System Of Internal Control:** Ensure that revenues collected from user fees follow local legal procedures and are protected from abuse.
7. **Establish Information System To Monitor User Fee Program:** Initiate manual and, if possible, computerized patient-level information that includes data on demographics, diagnoses, procedures rendered, and physicians providing care.
8. **Find Low-Cost Ways To Ensure And Improve The Quality Of Services:** Patients will only be willing to pay for services if they perceive value for their money.
9. **Inform The Population Of User Fees:** The population will be better to cope with the introduction of user fees if they have clear information about how much they will be expected to pay and whether they can be exempted from payment if they are unable to pay.

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- massage;
 - dentistry (except patient qualifying for state guaranteed medical care);
 - x-ray examinations (except for emergencies);
 - physiotherapy procedures;
 - ultrasonic diagnostics; and
 - selected laboratory tests.

The user fee director and chief accountant continue to calculate costs of services and to work with the *ZdravReform* computer consultant to design and implement the patient-level user fee information system.

8.0 CONCLUSIONS

8.1 General Challenges of Implementation

Zhovkva has achieved some successes in reforming various aspects of its health care delivery system as necessity and/or opportunities arose. The reforms have gradually introduced market-oriented approaches to health care while at the same time attempting to cope with conservative legal policy and declining economic conditions. The new Constitution approved in July 1996 took a very conservative approach to health care. Also, economic conditions in Ukraine have deteriorated severely; health facilities have received only about 18 percent of planned budgets. Finally, many of the reforms require reductions in personnel; however, this is difficult to implement when alternative employment opportunities in the slow economy are not available to absorb unemployed staff.

Article 49 of the Constitution states that medical services are free and that the existing network of health facilities cannot be reduced. From July until September 1996, user fee activities were suspended until the Cabinet of Ministers issued a decree allowing selective introduction of user fees. Hospital closures are still forbidden, so inpatient units are being converted to alternative uses where possible and appropriate. This has been a successful approach pursued in Zhovkva.

Reforms in financial management have been slowed because many budget articles are now unfunded and basic articles, such as salaries, nutrition, and medicines, are funded at below-standard levels. But with knowledge of management and financial management techniques, some moderate improvements in efficiency have been achieved.

Aggressive computerization would probably have speeded up the introduction of some of the reforms, but without a thorough understanding of management concepts and financing methods, rapid computerization could also have led to overly complicated and even incorrect solutions. Managers had to realize that computers are not the solution, but rather a way to facilitate the implementation of creative and solid methods of health care management.

In spite of these challenges, health administrators and managers have taken important initial steps towards implementation of per capita-based global budgeting. The Zhovkva health administration, with the assistance of the *ZdravReform* Program, has launched an integrated package of reforms that encompass system restructuring, quality of care, management, and alternative sources of financing

8.2 Summary

Preparing a rayon for per capita-based global budgeting is clearly not just an issue of calculating a new base budget based on demographic characteristics. Setting the base payment is an important first step, but it must be followed by other policy components including: (a) establishing methods of payments to inpatient and outpatient facilities, (b) establishing complementary systems of interfacility payments, (c) allowing health facilities greater management and financial autonomy, (d) setting up safeguards to prevent or deal with cost shifting, and (e) putting in place a set of performance indicators. The indicators will monitor how well resources are being used to promote efficiency while maintaining access and acceptable quality of care, and identify when global budgets need to be adjusted for extenuating circumstances (e.g., dramatic changes in volume or case mix). In Zhovkva, most of these components remain to be worked out, including the final form of the per capita formula.

New payment methods, such as global budgeting, set off a chain reaction of integrated components of reform as health managers face new financial risks that hopefully lead them to improve efficiency and quality. To respond, health managers need financial and management independence to restructure their systems to achieve these goals. Although it is too early to see the full impact of new methods of rayon budgeting on the health service and health outcomes indicators of Zhovkva Rayon, some trends can be observed. The efficiency of inpatient services appears to be improving. The inpatient unit of the hospital is being used closer to full capacity, surplus staff are gradually being laid off, and ALOS is falling. Two inpatient units have been converted to outpatient centers. New primary health care units, staffed by family medicine doctors, have been established and others are being planned. Although no user fee revenues have yet been generated, important legal and management steps have been taken to bring this reform closer to implementation.

Given the comprehensiveness and complexity of these reforms, it has clearly been worthwhile to begin their design and implementation while waiting for the full implementation of a global budget. It takes time for attitudes to change and new methods to be adapted and adopted. Zhovkva took the first steps in reform in 1994 by closing hospital beds and selected specialist units. Although the reforms are still at an early stage of implementation, performance indicators seem to suggest that efforts in the reform package are proving worthwhile.

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B. RELATED READINGS

Other case studies in this series:

Wouter, A., *An Overview of Case Studies on Payment Reforms in the New Independent States.*

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- CAR/KAZ-27 Roll-out of Financial and Organizational Reforms: Semipalatinsk Oblast, Kazakstan, April 10, 1996. Prepared under Task Order 292 by Jack Langenbrunner.
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- CAR/KYR-13 Design of a Case-based Hospital Payment System in Karakol, Kyrgystan, September 8-23, 1995. Prepared under Task Order 227 by Grace Carter.
- UKR-23 Design of Managed Care Prepayment Program for the Family Health Center, Odessa, Ukraine. October 24-November 21, 1995. Prepared under Task Order 321 by Kathryn Westover and Hopkins Holmberg
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- RUS-14 Developing and Testing Methods of Payment for Ambulatory Health Services, Kemerovo, Russia. Prepared under Task Order 124 by Josh Coburn.

- RUS-25 Cost Finding and Case Mix Reimbursement Innovation in Siberia (Tomsk, Novosibirsk) and Moscow, Russia, July-August 1995. Prepared under Task Order 161 by Alexander Telyukov.
- RUS-31 Introducing Family Physicians to New Methods of Financial Incentives: Designing and Testing of a Managed Care Model, Tomsk, Kemerovo, Kaluga, and Tver, Russia, January 8-February 11, 1996. Prepared under Task Orders 141, 143, 147, 149 by Henry Leavitt, E. Petrich and Associates Inc.

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- UKR-44 Assessment and Recommendations of the Accreditation Process and Standards of the Hospitals of Ukraine, February 28-March 12, 1997. Prepared under Task Order 319 by Janet Farrell.
- RUS-22 Training of Russian Physicians in Total Quality Management, Novosibirsk, Russia, April 24-28, 1995. Prepared under Task Order 122 by Hans F.Loken, E.Petrich and Associates Inc.

Department: Surgery
Physician: _____
Diagnosis: Hernia (inappr. for OP treatment)

Table 9 Clinical Pathway

Expected LOS: 5 days
Adm/Disch.: 9/01-9/06
Allergy: none
Hepatitis B: none

Patient: _____

	Polyclinic/FMA Visits		Days of stay (Hospital)		
Services	1	2	1	2	
Patient's assessment, blood pressure, temperature	Satisfactory	Satisfactory	Satisfactory	Satisfactory	go to next page
Diagnostic procedures, tests	General blood test, general urine test, blood sugar, coagulogram, chest X-ray, EKG, helminths feces test		Blood pressure, pulse, blood group	Blood pressure, pulse,	go to next page
Treatment, medication, operation, physioprocedures, physical exercises, manipulations			Sedative medication over night	Surgery, pre-medication, anesthetics over the night	go to next page
Patient regimen	Outpatient	Outpatient	Bed-stay	Bed-stay	go to next page
Diet	#15	#15	#1	0	go to next page
Physioprocedures, manipulations, physical exercises	Breathing exercises	Breathing exercises	Cleansing anema		go to next page
Consultations	Surgeon	Internist, cardiologist	Anesthe-siologist		go to next page
Family's and patient's education			To talk about patient's health status, necessity of an operation, patient's consent	Taking care of the patient, appropriate regimen	go to next page
Expected discharge date, reasons, changes			5	4	go to next page

Department: Surgery
 Physician: _____
 Diagnosis: Hernia (inappr. for OP treatment)

Table 9 Clinical Pathway

Expected LOS: 5 days
 Adm/Disch.: 9/01-9/06
 Allergy: none
 Hepatitis B: none

Patient: _____

Days of stay (Hospital)			Polyclinic/FMA Visits	
3	4	5	1	2
Comply with the complexity of surgery	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Blood pressure, pulse, EKG, bandaging	General blood test	Bandaging	Pulse, blood pressure	Pulse, blood pressure, bandaging
Anesthetics	Anesthetics			
Bed-stay	Bed-stay	Bed-stay	Outpatient	Outpatient
0	#1	#1	#15	#15
Physical and breathing exercises	Physical exercise	Physical exercise	Physical exercise	Physical exercise
			Surgeon (Family physician)	Surgeon (Family physician)
Breathing exercises, patient's health status, operation volume	Recommendations on patient's nutrition	Recommendations on patient's nutrition, breathing exercises		
3	2	1		